Abstract

POROUS INORGANIC MACROSTRUCTURE MATERIALS AND PROCESS FOR THEIR PREPARATION

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There is provided macrostructures of porous inorganic material which can have controlled size, shape, and/or porosity and a process for preparing the macrostructures. The macrostructures comprise a three-dimension network of particles of porous inorganic materials. The process for preparing the macrostructures involves forming an admixture containing a porous organic ion exchanger and a synthesis mixture capable of forming a porous inorganic material and then converting the synthesis mixture to a solid porous inorganic material. After formation of the composite material, the porous organic ion exchanger can be removed from the composite material to obtain the macrostructures, either before or after the porous inorganic material is hydrothermally treated with a structure directing agent to convert at least a portion of such porous inorganic material to a crystalline molecular sieve composition. The resulting macrostructure is composed of particles of the crystalline molecular sieve composition.